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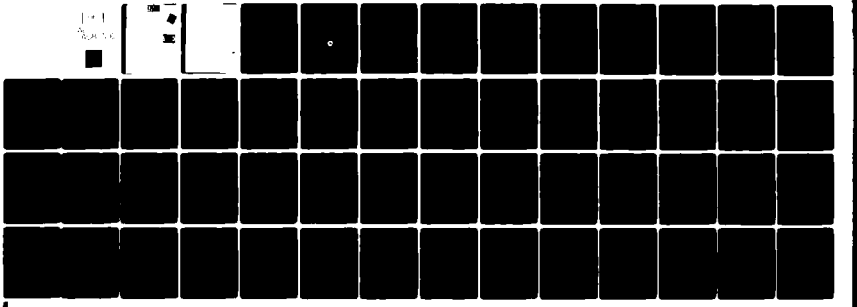

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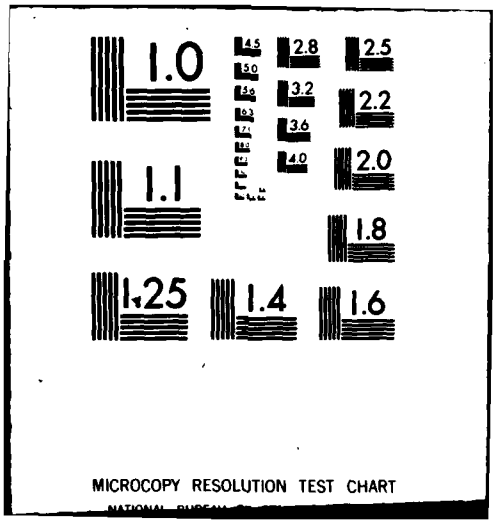
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16. Abstract

This report provides a summary and analysis of the data collected in the 1978 General Aviation Pilot and Aircraft Activity Survey. The survey was conducted at a random sample of airports across the nation and Puerto Rico, throughout the months of July and August 1978, by the Federal Aviation Administration with the assistance of the Civil Air Patrol.

The survey data provide information regarding the magnitude and characteristics of general aviation including: type and source of aircraft, flight purpose, utilization of flight plan and weather information services, trip length in time and distance, pilot age and certification. Estimates are made of total 1978 general aviation operations, fuel consumption and aircraft miles flown.

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GENERAL AVIATION PILOT AND AIRCRAFT ACTIVITY SURVEY

Conducted in 1978

(9) Analysis and summary report

(10) Susan J. Siricia

(11) Nov 79

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(14) TSC-FAA-79-29

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

PREFACE

This report presents the results of the 1978 General Aviation Pilot and Aircraft Activity Survey. The survey represents one component of the Federal Aviation Administration's (FAA) efforts to investigate, measure and document the characteristics and impacts of general aviation. The survey was sponsored by FAA's Office of Management Systems, Information and Statistics Division. The survey documents were processed and the survey report was prepared by the Transportation Systems Center (TSC) via Project Plan Agreement.

The survey design, including the questionnaire for pilot interview and the form for the traffic count, was prepared by Shung-Chai Huang, under the guidance of Nicholas L. Soldo, Chief of the Information Analysis Branch, Information and Statistics Division, in cooperation with other offices of the agency. Although the survey was conducted under the auspices of the FAA, the data collection was made possible through the efforts of the Civil Air Patrol (CAP). The Federal Aviation Administration appreciates the time and efforts of Brig. Gen. Thomas C. Casaday, National Commander of the CAP, Brig. Gen. Paul E. Gardner, USAF, Executive Director of the CAP, and CAP Wing Commanders of all fifty states and Puerto Rico, who coordinated the survey operations, and thousands of CAP squadron commanders, officers and cadets who performed the on-site data collection nationwide.

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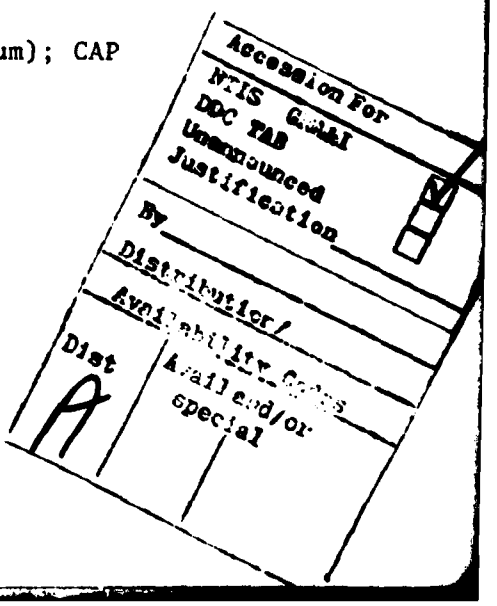

EXECUTIVE SUMMARY

This report presents the results of the 1978 General Aviation Pilot and Aircraft Activity Survey. The survey was conducted by the Federal Aviation Administration (FAA) with the assistance of the Civil Air Patrol (CAP), for the purpose of acquiring current data on a wide range of general aviation characteristics. Among the topics addressed by the survey are: pilot profiles, flight profiles, utilization of weather information services, fuel consumption, aircraft miles flown and traffic volume and patterns. The survey was conducted at a statistically designed sample of 220 airports which are open to the public. The sample represents a cross-section of airports with respect to FAA region and airport type. Two survey documents were used, a Questionnaire form and a Traffic Count form. Incoming pilots were interviewed, and all general aviation operations were recorded at the sample airports on each of two pre-selected dates (one weekday and one weekend day) during the months of July and August, 1978. The survey was the third in a series of general aviation surveys conducted in three-year intervals by the FAA in conjunction with the CAP.

Among the results yielded by the survey are:

- General aviation flight characteristics, including distance, time, local/itinerant split and load factor, have remained stable over the years 1975-1978.
- The active aircraft fleet composition has remained stable over the years 1972-1978.
- Large percentages of pilots of both local and itinerant operations seek both preflight and inflight weather information from either an FAA provided service or from some other source. Pilots rely more heavily on the FAA services in itinerant operations than in local operations.
- Over 166 million general aviation operations occurred in 1978 with three-fourths being local and one-fourth being itinerant.
- Nearly five billion nautical miles were flown in general aviation activity in 1978, consuming more than one billion gallons of fuel.
- Over 40% of all general aviation flights originated at FAA-towered airports.

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I. INTRODUCTION

A. BACKGROUND

The 1978 General Aviation Pilot and Aircraft Activity Survey was conducted by the Federal Aviation Administration (FAA) with the assistance of the Civil Air Patrol (CAP) for the purpose of acquiring timely data of a descriptive nature concerning the magnitude and characteristics of general aviation in the United States. Although the largest component of aviation in terms of number of aircraft and level of activity, historically there have been few sources of data regarding general aviation in spite of its impact on such important social issues as safety and fuel consumption. Recognizing the growing need to understand more fully the nature of general aviation for policy and planning purposes, the FAA is striving to improve existing data collection processes relating to general aviation activities and has instituted new data collection efforts in the field of general aviation. One of these is a series of general aviation surveys conducted in three-year intervals in conjunction with the CAP. The 1978 General Aviation Pilot and Aircraft Activity Survey was the third survey in this series.

The first survey in the sequence was conducted in 1972 and was primarily intended to yield flight profiles of general aviation operations, focusing on length of trip in time and distance. This was achieved by interviewing incoming pilots at a random sample of airports on designated dates. The scope of the survey was broadened in 1975 to include additional characteristics of general aviation flights as well as pilot characteristics. Also in 1975, the objectives of the survey were expanded - a second survey document was introduced to record all operations occurring at the selected sites on the survey dates for the purpose of deriving national annual estimates of general aviation activity for 1975.

The 1978 survey was modeled after the 1975 survey with some refinements being made to the survey documents and several improvements being incorporated into the entire sampling and survey operation. A scientifically selected sample of airports was drawn, and the survey was conducted on two days at each of these airports, resulting in a total of 6,070 pilot interviews and over 35,000 general aviation operations recorded at a total of 220 airports throughout the months of July and August, 1978.

B. OBJECTIVES

The objectives of the 1978 survey were manifold. To satisfy these objectives, the questionnaire form and the traffic count form used in the survey were designed to yield information on a wide variety of relevant questions regarding general aviation. Among the survey objectives were the following:

1. Develop pilot profiles including characteristics such as:

   a. age
   b. pilot certificate
   c. instrument rating
   d. hours flown in 1977
   e. utilization of flight plans

2. Develop flight profiles by aircraft type including characteristics such as:

   a. source of aircraft
   b. purpose of trip
   c. load factor
   d. trip time, distance and average speed
   e. local/itinerant breakdown

3. Measure the utilization of the FAA services and facilities for obtaining weather information, preflight and in-flight.

4. Estimate fuel consumption and aircraft miles flown in general aviation in 1978.

5. Estimate national totals of general aviation aircraft takeoffs and landings, and identify patterns in general aviation traffic.

6. Identify trends in general aviation by comparison with the results from the 1972 and 1975 surveys.

The survey results are presented in Section II. The topics are discussed as they are grouped and ordered in the above list of objectives. Tables illustrating one-way and multi-way distributions of responses are provided extensively as the best means of summarizing and describing the data. The text has been kept brief intentionally and is primarily used to highlight the results presented in the tables. Details of the sampling plan and statistical methodologies have been reserved for Section III METHODOLOGY. Additional tables are provided in Appendix A. Copies of the survey documents and interviewer instruction forms are located in Appendix B.

II. SURVEY RESULTS

A. PILOT PROFILES

The survey questionnaire contained questions on pilot age, certification, instrument rating, hours flown in 1977 and utilization of flight plans. The results provide profiles of the active pilot population with respect to these characteristics and allow many interesting crosstabulations between these items and other items on the questionnaire, such as source of aircraft and purpose of flight.

The distribution of pilot certificates which was observed in the sample is given in Table 1. In the case of multiple certification, a pilot was classified according to the highest rating certificate he held, with the highest rating being airline transport (ATR) followed by commercial, private and student. No pilots with certificates from foreign countries were observed. Table 1

TABLE 1. DISTRIBUTION OF ACTIVE PILOT POPULATION, PILOT INTERVIEWS AND AIRCRAFT OWNERSHIP OVER PILOT CERTIFICATE

PILOT CERTIFICATE	ACTIVE PILOT POPULATION[1]	PILOT INTERVIEWS	REPORTED PRIVATE AIRCRAFT OWNERSHIP
Student	25.6	13.1	4.6
Private	42.3	43.8	59.8
Commercial	23.3	34.2	31.2
ATR	7.0	8.7	4.3
Helicopter (only)	0.6	0.2	0.1
Glider (only)	0.8	*	0.0
Balloon (only)	0.4	*	0.0
Total	100.0	100.0	100.0

* Represents less than 0.1%.

1. *1978 U.S. Civil Airmen Statistics*, U.S. Department of Transportation, Federal Aviation Administration, (Washington, D.C., 1979), p. 4.

provides a comparison of the observed pilot distribution to the active pilot population as of December 31, 1978, according to official airman certification records maintained at FAA's Mike Monroney Aeronautical Center, located in Oklahoma City, Oklahoma. These "active" pilot records include all pilots who hold a valid medical certificate and therefore, who are eligible to fly. However, eligibility to fly does not imply that they performed any flying in 1978. Comparison of the two distributions suggests that commercial pilots were most active in 1978 whereas student pilots were less active relative to their numbers in the population of eligible pilots. Also in Table 1 is the distribution of aircraft ownership over pilot certificates as reported by the interviewed pilots. Private pilots account for 59.8% of the privately owned aircraft reported in the survey.

Table 2 contains the observed pilot age distribution and the actual active pilot age distribution. The two are strikingly close, with both displaying pronounced symmetry. The observed distribution has a mean of 37.6, and the active pilot population has a mean of 37.2. Both distributions have a median of 37.5.

TABLE 2. DISTRIBUTION OF ACTIVE PILOT POPULATION AND PILOT INTERVIEWS OVER PILOT AGE

PILOT AGE	ACTIVE PILOT POPULATION[1]	PILOT INTERVIEWS
Under 16	0.1	0.1
16-19	4.0	3.1
20-24	11.7	11.1
25-29	14.8	14.5
30-34	16.4	15.9
35-39	13.8	14.0
40-44	11.2	12.0
45-49	9.9	10.5
50-54	8.0	9.8
55-59	6.1	6.0
60 and over	4.0	3.0
Total	100.0	100.0

1. *1978 U.S. Civil Airmen Statistics*, U.S. Department of Transportation, Federal Aviation Administration, (Washington, D.C., 1979), p. 19.

The percentages of pilots holding a current instrument rating for each type of certificate are given in Table 3. Overall, 45.7% responded positively to the question and 54.3% responded negatively. The results are very similar to the 1975 survey.

Average hours flown in calendar year 1977 by pilot certificate are given in Table 4. As one might expect, commercial and ATR pilots tend to fly more total hours than the other types of certificates with students showing the lowest totals. Student pilots fly more in local rather than itinerant activity whereas the other categories of pilots engage more in itinerant flying.[1]

TABLE 3. PERCENTAGE DISTRIBUTION OF CURRENT INSTRUMENT RATING BY PILOT CERTIFICATE[1]

PILOT CERTIFICATE	CURRENT INSTRUMENT RATING	
	Yes	No
Student	0.0	100.0
Private	19.5	80.5
Commercial	82.9	17.1
ATR	99.4	0.6
Helicopter (only)	62.5	37.5
All Certificates	45.7	54.3

1. Glider and balloon certificates were omitted due to insufficient data.

TABLE 4. AVERAGE HOURS FLOWN CY 1977 BY PILOT CERTIFICATE - LOCAL VS. ITINERANT[1]

PILOT CERTIFICATE	AVERAGE HOURS FLOWN				
	Total Hours	Local		Itinerant	
		Hours	% of Total	Hours	% of Total
Student	35	25	71.4	10	28.6
Private	126	50	39.7	76	60.3
Commercial	405	157	38.8	248	61.2
ATR	658	117	17.8	541	82.2
Helicopter (only)	346	135	39.0	211	61.0

1. Glider and balloon certificates were omitted due to insufficient data.

[1] See Appendix B. for definitions of local vs. itinerant operations.

Before takeoff, a general aviation pilot may file a flight plan with an FAA Flight Service Station or Air Traffic Control facility. The purpose of the flight plan is to inform the system of the destination, direction and route of the flight so that, in the event of an overdue aircraft, search procedures may be initiated. In general, there are two types of flight plans, IFR (Instrument Flight Rules), filed when Instrument Meteorological Conditions prevail, and VFR (Visual Flight Rules), filed when Visual Meteorological Conditions prevail. Few pilots in local operations file flight plans because of the generally limited scope of their flights. Pilots in itinerant operations are more likely to file a flight plan as a precautionary measure. The results on utilization of flight plans are located in Table 5. Overall, 9% of the pilots in local operations filed a flight plan compared to 52.9% of the pilots in itinerant operations.

TABLE 5. PERCENTAGE UTILIZATION OF FLIGHT PLAN BY TYPE OF FLIGHT BY PILOT CERTIFICATE[1]

LOCAL FLIGHT PLAN			PILOT CERTIFICATE	ITINERANT FLIGHT PLAN		
None[2]	IFR	VFR		None[2]	IFR	VFR
89.7	1.3	9.0	Student	26.0	5.8	68.2
92.4	1.8	5.8	Private	58.7	11.3	30.0
91.1	3.7	5.2	Commercial	46.6	28.2	25.2
81.1	8.3	10.6	ATR	25.4	58.0	16.6
91.0	2.6	6.4	All Certificates	47.1	24.0	28.9

1. Helicopter, glider and balloon certificates were omitted due to insufficient data.

2. Assumes that non-respondents did not file a flight plan.

B. FLIGHT PROFILES

A primary goal of the survey was to obtain information at the individual flight level which would provide characteristics of general aviation flights in general. The survey questionnaire was designed to contain pertinent questions regarding flight characteristics of both local and itinerant operations for this purpose.

The distribution of surveyed aircraft is located in Table 6, along with the observed distributions from the 1972 and 1975 surveys and the distributions of registered active aircraft in 1972, 1975 and 1977. The two sets of distributions are very similar, and each set appears to have remained constant over time.

TABLE 6. GENERAL AVIATION ACTIVE AIRCRAFT FLEET BY AIRCRAFT TYPE

	PERCENTAGE DISTRIBUTIONS					
	Surveyed Aircraft			Registered Active Aircraft		
AIRCRAFT TYPE	1972	1975	1978	1972[1]	1975[2]	1977[2]
Single-engine Piston	80.1	79.3	80.4	83.0	81.3	81.0
Multi-engine Piston	14.8	13.5	13.6	11.9	12.1	11.7
Rotorcraft	1.1	1.6	1.6	1.9	2.4	2.5
Turboprop	2.5	3.1	2.6	1.1	1.5	1.6
Turbojet	1.5	2.2	1.5	0.8	1.0	1.2
Other Aircraft[3]	*	0.3	0.3	1.3	1.7	2.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

* Represents less than 0.1%.

1. *Census of U.S. Civil Aircraft, Calendar Year 1972*, U.S. Department of Transportation, Federal Aviation Administration, (Washington, D.C., 1974), p. 27.

2. *1977 General Aviation Activity and Avionics Survey*, U.S. Department of Transportation, Federal Aviation Administration, (Washington, D.C., 1979), p. 1-23.

3. Includes gliders, blimps, balloons and dirigibles.

The pilots in the survey reported a breakdown of 49.5% local and 50.5% itinerant operations. The observed split in 1975 was 45.6%-54.4%, and in 1972, it was 46.5%-53.5%, another indicator of consistency in general aviation in recent years. Flight characteristics by aircraft type for local operations are presented in Table 7, and for itinerant operations, in Table 8. The characteristics differ markedly between the two types of operations. In general, itinerant flights are longer in time and distance[1], and a higher average speed[2] is maintained. Average load factor, defined as:

(average seats occupied / average seats available) x 100

tends to be higher for itinerant flights. In local flights, the more sophisticated types of aircraft exhibited longer flight times and higher speeds. In terms of percentages, far fewer turbojets, turboprops and multi-engine piston aircraft were utilized in local flights than in itinerant flights, as indicated in Table 9.

TABLE 7. LOCAL FLIGHT CHARACTERISTICS BY AIRCRAFT TYPE

AIRCRAFT TYPE	AVERAGE CHARACTERISTIC					
	Landings Per Flight	Flight Time (Minutes)	Flight Speed (Nautical mph)	Seats Available	Seats Occupied	Load Factor
Single-engine Piston (1-3 place)	3.50	63	92	1.96	1.62	82.7%
Single-engine Piston (4 place and over)	2.50	58	115	4.16	2.10	50.5%
Multi-engine Piston	2.08	56	156	6.60	2.89	43.8%
Rotorcraft Piston	5.17	94	62	2.79	1.68	60.2%
Rotorcraft Turbine	3.38	92	107	7.69	2.77	36.0%
Turboprop	2.22	35	160	9.50	3.87	40.7%
Turbojet	5.80	71	244	7.50	2.33	31.1%
Glider	3.31	67	45	1.76	1.71	97.2%

[1]Average distance in local flights is estimated as: (average flight time x average flight speed).

[2]Average speed in itinerant flights is estimated as: (average last leg distance / average last leg time).

TABLE 8. ITINERANT FLIGHT CHARACTERISTICS BY AIRCRAFT TYPE

AIRCRAFT TYPE	AVERAGE CHARACTERISTIC					
	Last Leg Distance (Nautical Miles)	Last Leg Time (Minutes)	Total Trip Distance (Nautical Miles)	Seats Available	Seats Occupied	Load Factor
Single-engine Piston (1-3 place)	121	77	293	1.98	1.46	73.7
Single-engine Piston (4 place and over)	197	95	389	4.36	2.39	54.8
Multi-engine Piston	223	77	455	6.71	3.74	55.7
Rotorcraft Piston	125	78	188	4.00	2.07	51.8
Rotorcraft Turbine	155	86	367	6.15	2.54	41.3
Turboprop	269	69	497	10.79	5.74	53.2
Turbojet	541	77	851	8.16	4.23	51.8

TABLE 9. PERCENTAGE DISTRIBUTION OF TYPE OF FLIGHT BY AIRCRAFT TYPE

AIRCRAFT TYPE	TYPE OF FLIGHT		
	LOCAL	ITINERANT	TOTAL
Single-engine Piston (1-3 place)	72.7	27.3	100.0
Single-engine Piston (4 place and over)	47.8	52.2	100.0
Multi-engine Piston	21.5	78.5	100.0
Rotorcraft Piston	65.9	34.1	100.0
Rotorcraft Turbine	50.0	50.0	100.0
Turboprop	10.2	89.8	100.0
Turbojet	6.4	93.6	100.0
Glider	100.0	0.0	100.0
Total	49.5	50.5	100.0

Selected flight characteristics observed in the 1975 survey are presented in Table 10 for comparative purposes. Inspection of the table reveals a striking similarity between the two points in time for both local and itinerant flights, a further confirmation of the consistency over time in general aviation characteristics. The similarities carry over in both absolute and relative terms with respect to the different aircraft types. One notable exception appears to be the short observed average flight time (35 minutes) for turboprops engaged in local flight activity in 1978. This discrepancy is probably due to the fact that a small number of turboprops were observed in local flights in the 1978 survey. The small sample may not provide an accurate estimate of the true average flight time of turboprops engaged in local flights.

One rather suprising result is the constancy of load factor over time. One might have expected an increase in load factor due to higher operating costs resulting from increased expenditures on fuel. These findings imply that rising costs are not yet being compensated for by an attempt to increase the passenger load.

Additional tables presenting local and itinerant flight characteristics by pilot certificate and by flight purpose are located in Appendix A.

TABLE 10. SELECTED FLIGHT CHARACTERISTICS BY FLIGHT TYPE BY AIRCRAFT TYPE - 1975

AIRCRAFT TYPE	AVERAGE CHARACTERISTIC					
	LOCAL			ITINERANT		
	Landings Per Flight	Flight Time (Minutes)	Seats Occupied	Last Leg Distance (Nautical Miles)	Last Leg Time (Minutes)	Load Factor
Single-engine Piston (1-3 place)	3.1	58	1.7	104	67	75
Single-engine Piston (4 place and over)	2.4	56	2.1	166	79	59
Multi-engine Piston	2.1	57	3.4	288	76	58
Rotorcraft	4.2	80	2.1	102	65	58
Turboprop	2.6	77	3.7	274	75	53
Turbojet	N/A	N/A	N/A	481	80	52
Glider	1.0	18	1.2	N/A	N/A	N/A

N/A = Not Available.

C. UTILIZATION OF SERVICES PROVIDING WEATHER INFORMATION, PREFLIGHT AND INFLIGHT

Because the survey collected information at the individual flight level and obtained the information from the primary source, the pilot, it provided an excellent medium for inquiring about the utilization of the various sources of weather information. The FAA provides several such services for the dissemination of both preflight and inflight weather information. The preflight FAA services are: Flight Service Station (FSS) briefings, Pilot's Automatic Telephone Weather Answering Service (PATWAS) and Transcribed Weather Broadcasts (TWEB). Other preflight sources of information include: National Weather Service (NWS) briefings, National Oceanographic and Atmospheric Administration (NOAA) broadcasts, and television, radio and/or newspaper reports. FAA sources of inflight weather information are: Enroute Flight Advisory Service (EFAS), Flight Watch, Airport Terminal Information Service (ATIS), FSS hourly broadcasts, TWEB broadcasts, both NDB (non-directional beacon) and VOR (very high frequency on the directional range) and direct contact with the FSS or center/tower.

Tables 11 and 12 provide utilization rates of the FAA and "other" sources of preflight and inflight weather information for each category of flight purpose. The results are expressed as percentages of flights whose pilot reportedly used one or more of the FAA sources of information, one or more of the "other " sources, and those where no weather information service was utilized.

Overall, 47.3% of the local flight pilots used at least one of the FAA sources of preflight information and 50.0% used at least one of the "other" sources, with 7.1% not attempting to obtain weather information from either the FAA or other sources. Those utilizing the FAA sources may also have used one or more of the other sources and vice versa. That is, the percentages are over aggregate utilization of all services, recognizing that pilots frequently rely on multiple sources of information. 85.0% of all itinerant flight pilots sought prior weather information from FAA sources and 20.9% used other sources with 1.6% not using any of the available services.

With respect to inflight weather information, 43.0% of local flight pilots reportedly used FAA sources, 35.6% used other sources and 22.6% did not seek inflight weather information. For itinerant flights, 75.2% of the pilots reportedly used FAA sources, 13.4% used other sources and 12.6% did not seek inflight weather information from any source.

TABLE 11. PERCENTAGE UTILIZATION OF PREFLIGHT WEATHER INFORMATION SERVICES BY TYPE OF FLIGHT BY PURPOSE OF FLIGHT

LOCAL: PREFLIGHT WEATHER INFORMATION			PURPOSE OF FLIGHT	ITINERANT: PREFLIGHT WEATHER INFORMATION		
FAA	Other	None		FAA	Other	None
46.7	51.2	6.5	Personal	84.9	21.3	1.6
59.8	39.9	5.0	Business	84.8	20.4	1.3
66.7	23.8	9.5	Executive/Corporate	92.8	19.0	1.3
66.7	33.3	5.5	Commuter Air Carrier	81.9	25.3	3.6
65.7	37.1	0.0	Air Taxi	89.0	15.7	1.9
45.7	51.1	7.7	Instructional	91.6	15.8	0.5
20.6	69.1	13.2	Aerial Application	54.5	63.6	0.0
57.1	48.6	8.6	Industrial	65.4	23.0	11.5
35.7	55.1	10.8	Other	61.4	42.0	2.3
47.3	50.0	7.1	All Flights[1]	85.0	20.9	1.6

1. Percentages may not total 100.0 due to the possibility of multiple utilization of the available services.

TABLE 12. PERCENTAGE UTILIZATION OF INFLIGHT WEATHER INFORMATION SERVICES BY TYPE OF FLIGHT BY PURPOSE OF FLIGHT

LOCAL: INFLIGHT WEATHER INFORMATION			PURPOSE OF FLIGHT	ITINERANT: INFLIGHT WEATHER INFORMATION		
FAA	Other	None		FAA	Other	None
42.2	35.5	23.6	Personal	73.7	14.5	13.4
50.4	29.2	21.2	Business	76.0	12.7	11.9
76.2	9.5	14.3	Executive/Corporate	83.0	6.5	11.1
44.4	38.9	16.7	Commuter Air Carrier	75.9	18.1	10.8
51.4	28.6	20.0	Air Taxi	81.0	11.9	10.0
43.9	36.0	21.4	Instructional	76.3	12.1	12.1
19.1	63.2	19.1	Aerial Application	63.6	27.3	9.1
34.3	34.3	34.3	Industrial	61.5	15.4	23.0
34.6	41.6	24.9	Other	59.1	20.5	21.6
43.0	35.6	22.6	All Flights[1]	75.2	13.4	12.6

1. Percentages may not total 100.0 due to the possibility of multiple utilization of the available services.

Overall utilization of preflight and inflight weather information services is indicated in Table 13. A large percentage of both local (75.9%) and itinerant (86.8%) flight pilots reportedly sought weather information from some source, both preflight and inflight. A small percentage (5.5% local, 1.0% itinerant) did not seek either preflight or inflight weather information. Additional tables relating to the utilization of weather information services are provided in Appendix A.

TABLE 13. OVERALL PERCENTAGE UTILIZATION OF PREFLIGHT AND INFLIGHT WEATHER INFORMATION SERVICES BY TYPE OF FLIGHT

TYPE OF FLIGHT	WEATHER INFORMATION SERVICES UTILIZED			
	PREFLIGHT AND INFLIGHT	PREFLIGHT BUT NOT INFLIGHT	INFLIGHT BUT NOT PREFLIGHT	NEITHER PREFLIGHT NOR INFLIGHT
Local	75.9[1]	17.1	1.5	5.5
Itinerant	86.8	11.6	0.6	1.0

1. 75.9% of pilots of local operations used at least one preflight and at least one inflight weather information service. The remaining table entries are interpreted similarly.

D. ESTIMATES OF FUEL CONSUMPTION AND AIRCRAFT MILES FLOWN

An estimate of fuel consumption in general aviation activity in 1978 may be derived from the survey data by calculating fuel consumption rates for each type of aircraft and multiplying by hours flown for each aircraft type. Estimates of hours flown for 1977 were used, because 1978 estimates were not available at the time of publication. The results, presented in Table 14, show an estimated total consumption of 428.3 million gallons of aviation fuel and 638.2 million gallons of jet fuel. These estimates assume that the aircraft category turboprop consumed only jet fuel, when in fact, a small percentage use aviation fuel.

Within each aircraft category in Table 14, a wide range of aircraft characteristics and capabilities are possible, and therefore, a wide range of fuel consumption rates could occur. The extremely powerful aircraft with high fuel consumption rates make a substantial contribution to total fuel consumed even though their total hours flown were far less than the smaller, less powerful aircraft types. The contribution of these aircraft was diluted by grouping them into broad categories rather than a finer breakdown which would be more reflective of their capacity to consume fuel. It is therefore possible that the survey results somewhat underestimate the actual total fuel consumed.

TABLE 14. ESTIMATE OF FUEL CONSUMPTION

TYPE OF AIRCRAFT	AVERAGE FUEL CONSUMED (Gallons Per Hour)		AIRCRAFT HOURS FLOWN CY 1977 [1] (Thousand Hours)	TOTAL FUEL CONSUMED (Million Gallons)	
	Aviation Gasoline	Jet Fuel		Aviation Gasoline	Jet Fuel
Single-engine Piston (1-3 place)	7.05		8,973	63.3	
Single-engine Piston (4 place and over)	10.50		15,944	167.4	
Multi-engine Piston	30.49		6,048	184.4	
Rotorcraft Piston	21.60		609	13.2	
Rotorcraft Turbine		56.92	1,259		71.7
Turboprop		107.15	1,549		166.0
Turbojet		343.74	1,165		400.5
Total				428.3	638.2

1. *1977 General Aviation Activity and Avionics Survey*, U.S. Department of Transportation, Federal Aviation Administration, (Washington, D.C., 1979), p. 1-21.

An estimate of total aircraft miles flown in 1978 may be estimated from the survey data by the following method:

1. Determine the local/itinerant breakdown of flights for each type of aircraft from the survey data (See Table 9). These percentages will serve as proxies for percentages of hours flown in local and itinerant flights.

2. Obtain estimates of total hours flown for each aircraft type[1] and breakdown the total into local and itinerant hours using the percentages from step 1.

3. Obtain average speed in local flights and average speed in itinerant flights from the survey data. Local flight speeds were requested in the interview. Average itinerant flight speeds were estimated as:
(average last leg distance/average last leg time) for each aircraft type.

4. Multiply average speed by hours flown for each aircraft type, for local and for itinerant flights, to obtain estimates of miles flown by aircraft type.

5. Sum these estimates over aircraft type to obtain an estimate of total miles flown in local flight and an estimate of total miles flown in itinerant flight.

Details of the calculations are located in Table 15. The final estimate yielded by this method of total aircraft miles flown is 4,787 million miles, of which an estimated 1,825 million were in local flight activity and 2,962 million were in itinerant flight activity.

TABLE 15. ESTIMATION OF AIRCRAFT MILES FLOWN BY AIRCRAFT TYPE

TYPE OF AIRCRAFT	LOCAL			ITINERANT		
	HOURS FLOWN (Thousands)	AVERAGE SPEED (Nautical m.p.h)	MILES FLOWN (Millions)	HOURS FLOWN (Thousands)	AVERAGE SPEED (Nautical m.p.h)	MILES FLOWN (Millions)
Single-engine Piston (1-3 place)	6,523	92	600	2,450	94	230
Single-engine Piston (4 place and over)	7,621	115	876	8,323	124	1,032
Multi-engine Piston	1,300	156	203	4,748	174	826
Rotorcraft Piston	401	62	25	207	96	20
Rotorcraft Turbine	630	107	67	630	108	68
Turboprop	158	160	25	1,391	234	326
Turbojet	75	244	18	1,090	422	460
All Others	244	45	11	N/A	N/A	N/A
Total			1,825			2,962

[1]Estimates of hours flown for 1978 were not available at the time of publication. Estimated hours flown for 1977 were used in the calculations. These are provided in Table 14.

E. ESTIMATES OF TOTAL 1978 GENERAL AVIATION OPERATIONS AND TRAFFIC PATTERNS BETWEEN AIRPORT TYPES

One of the primary objectives of the survey was the estimation of the total number of general aviation operations[1] occurring in 1978. The data recorded on the Traffic Count forms were used to derive estimates of daily operations for each of the four airport types. An adjustment was made in the estimation process to account for the fact that the data was collected in the summer months and may be subject to a seasonal bias. The resultant estimates of average daily activities by airport type are contained in Table 16. Because the estimates represent averages corrected for seasonality, total 1978 operations for each class may be estimated by multiplying the daily averages by 365 and then by the number of airports in each class. The results of these calculations are presented in Table 16.

TABLE 16. ESTIMATES OF TOTAL 1978 GENERAL AVIATION OPERATIONS

TYPE OF AIRPORT	NUMBER OF AIRPORTS	AVERAGE DAILY OPERATIONS[1]	1978 TOTAL OPERATIONS (MILLIONS)
Public-Use Airports	6,540		
Towered	495	273	49.3[2]
Non-Towered			
Paved and Lighted Runways	2,794	83	84.6
Paved and Unlighted Runways	539	30	5.9
Unpaved Runways	2,712	16	15.8
			155.6
Non-Public-Use Airports	7,752		10.9
Total	14,292		166.5

1. Adjusted for nighttime activity.

2. In calendar year 1978, FAA towered airports recorded 55.6 million general aviation operations.

The class of airports which was not represented in the survey, those not open to the public, contains 7,752 facilities. This class includes military bases and other federal government facilities as well as corporate and/or hospital owned facilities. Privately owned airports also appear in this category. The volume of general aviation activity occurring at these airports is believed to be minimal relative to the activity occurring at public use airports. According to data extracted from the Airport Master File,

[1] An operation is defined as a takeoff or landing. A touch-go is counted as two operations.

approximately 7% of all general aviation activity occurs at airports which are not open to the public. This factor was used to account for the activity occurring in this class, yielding a final estimate for 1978 of 166.5 million general aviation operations. Comparing this estimate to the 1975 estimate of 137.5 million, an annual compounded growth rate of slightly less than 7% is suggested.

A local/itinerant breakdown for total operations at airports open to the public may be derived from the interview data by using the reported local/itinerant flight split and applying it to the reported average number of landings per flight. Results by flight purpose are located in Table 17. The overall breakdown for total operations occurring at airports open to the public which is yielded by the calculation is 74% local and 26% itinerant, compared with a 71%-29% breakdown in the 1975 survey. This result suggests that although the volume of activity is increasing, the relative proportions of local and itinerant operations has remained stable.

TABLE 17. PERCENTAGE DISTRIBUTION OF TYPE OF OPERATION BY FLIGHT PURPOSE

PURPOSE OF FLIGHT	TYPE OF OPERATION	
	LOCAL	ITINERANT
Personal	73.4	26.6
Business	39.7	60.3
Executive/Corporate	19.5	80.5
Commuter Air Carrier	24.5	75.5
Air Taxi	18.9	81.1
Instructional	94.7	5.3
Aerial Application	96.7	3.3
Industrial	77.2	22.8
Other	82.4	17.6
All Operations	73.9	26.1

Another objective of the survey was to broaden the base of knowledge regarding traffic patterns in general aviation. Specifically, the issue of traffic volume between airport types was addressed via question 11c. The findings reveal that, regardless of the type of destination airport, a large percentage of itinerant flights originated at FAA-towered airports. This fact is illustrated in Table 18 where the percentage distribution of itinerant flight originating airport type is provided for each type of destination airport. These findings highlight the role of the FAA tower facilities in general aviation.

TABLE 18. PERCENTAGE DISTRIBUTION OF ITINERANT FLIGHT ORIGINATING AIRPORT TYPE BY DESTINATION AIRPORT TYPE

ORIGINATING AIRPORT TYPE	DESTINATION AIRPORT TYPE				
	FAA Tower	Non-FAA Tower	No Tower, Paved Runways	No Tower, Unpaved Runways	All Airport Types[1]
FAA Tower	59.1	58.8	41.2	34.3	40.2
Non-FAA Tower	6.9	5.9	6.7	6.0	6.4
No Tower, Paved Runways	28.1	29.4	44.2	37.3	39.8
No Tower, Unpaved Runways	5.9	5.9	7.9	22.4	13.6
Total	100.0	100.0	100.0	100.0	100.0

1. Percentages represent weighted totals over airport types where the weight was the relative size of the airport type stratum.

III. METHODOLOGY

A. SAMPLE DESIGN

The sample size was fixed by practical considerations to a maximum of 300 airports. Because it was desired to achieve broad geographical coverage and proportional representation by airport type, a two-way stratified sample was selected. The airport population was stratified by FAA region and within region by four airport types:

1. Towered
2. Non-towered, Paved and Lighted runways
3. Non-towered, Paved and Unlighted runways
4. Non-towered, Unpaved runways

The sample was allocated to the regions by a procedure which took into account the distribution by region of pilots and aircraft. The allocation to airport type was made in proportion to the distribution of airport type in each region. The resulting distribution of the sample airports is provided in Table 19 along with the population distribution of airports and the distribution of sample interviews which resulted.

TABLE 19. PERCENTAGE DISTRIBUTION OF SAMPLE PILOTS AND AIRPORTS VS. POPULATION DISTRIBUTIONS BY FAA REGION

FAA REGION	ACTIVE PILOT POPULATION[1]	PILOT INTERVIEWS	AIRPORTS OPEN TO PUBLIC[2]	SAMPLE AIRPORTS[3]
Alaskan	1.4	1.0	5.8	0.5
Central	6.5	11.9	10.3	10.0
Eastern	13.0	12.3	10.6	13.9
Great Lakes	17.3	13.1	18.1	15.4
New England	4.3	8.0	3.4	7.7
Northwest	5.7	7.2	6.2	7.7
Pacific	0.5	1.0	0.3	0.5
Rocky Mountain	5.2	9.4	9.0	8.7
Southern	16.6	17.8	13.5	19.2
Southwest	12.2	9.0	15.0	11.1
Western	17.3	9.3	7.8	5.3
Total	100.0	100.0	100.0	100.0

1. *1978 U.S. Civil Airmen Statistics*, U.S. Department of Transportation, Federal Aviation Administration, (Washington, D.C., 1979), p. 10.
2. According to the Airport Master File which is maintained by FAA's National Flight Data Center.
3. Represents airports at which interviews were conducted.

Table 20 gives the distribution of sample airports over airport type. The sample of airports was selected from a computer printout prepared from the Airport Master File by FAA's National Flight Data Center. The printout listed airports separately by substratum in order of their site number. Type 1 airports were those having a tower, either FAA or non-FAA. An airport was coded Type 2 Non-towered, Paved and Lighted if it was non-towered and had at least one runway which was paved and lighted. Type 3, Non-towered, Paved and Unlighted designated those non-towered airports which had at least one paved runway, and none of the runways which were paved were also lighted. Type 4 airports were those non-towered airports having no paved runways. The actual sample selection within substrata was conducted systematically with a random start. Random number tables were utilized to ensure randomness.

TABLE 20. PERCENTAGE DISTRIBUTION OF SAMPLE AIRPORTS VS. AIRPORT POPULATION BY TYPE OF AIRPORT

TYPE OF AIRPORT	AIRPORTS OPEN TO PUBLIC[1]	SAMPLE AIRPORTS[2]
Towered	7.6	22.2
Non-Towered	92.4	77.8
Paved, Lighted Runways	42.7	47.3
Paved, Unlighted Runways	8.2	10.0
Unpaved Runways	41.5	20.5
Total	100.0	100.0

1. According to the Airport Master File which is maintained by FAA's National Flight Data Center.

2. Represents airports at which traffic counts were conducted.

The CAP was allowed to select the dates for data collection at each airport provided one day was a weekday and one was a weekend day and that the days selected were during the months of July and August. The survey procedure required that every incoming pilot be interviewed on the survey days and every general aviation operation occurring between the hours of 0600 - 2100 be recorded. If the airport was not open for the entire survey period, the survey was conducted during the hours of operation of the airport, and this fact was reflected in the estimation of activity level.

B. ESTIMATION FROM THE QUESTIONNAIRE DATA

The crosstabulations produced from the interview data are descriptive findings. These data represent the unweighted cell totals from the interviews. For those tables involving pilot characteristics, duplicate interviews were removed as indicated by question 19. For results pertaining to itinerant vs. local operations, the tables were produced from the appropriate subfile according to question 9. In all cases, the crosstabulations were produced only from those records which contained responses to all relevant questions. Hence, the various tables may be based on differing numbers of interviews. For this reason, and because it was desired to provide information of a descriptive nature, these tabular results are presented as percentages rather than frequencies.

C. ESTIMATION FROM THE TRAFFIC COUNT DATA

The traffic count data was used to estimate total general aviation operations occurring in 1978. The approach taken was to derive an estimate for each of the four airport type codes and to sum over airport types to determine an overall total. This approach groups the airports together which are expected to be homogeneous with respect to their daily traffic volume, since the facilities available at an airport are indicative of the traffic there. It was for this reason that the airports were sampled according to their tower and runway attributes.

For each airport code, an average daily traffic[1] estimate was derived. In order to make a daily estimate, it was necessary to make an estimate for each hour between 0600 and 2100 and sum the hourly estimates to arrive at a daily estimate. This step was necessary because the hours of operation differed from airport to airport as did the hours of observation. Partial hour observations were accounted for in the estimation procedure. Survey interruption periods were recorded and were also taken into account.

Because traffic volumes differ between weekend days and weekdays, estimation was performed separately for the two cases. The hourly traffic estimates for weekdays and weekends are provided in Tables 21 and 22. An average daily estimate was calculated by weighting the weekday average by five and the weekend average by two and then dividing by seven.

An adjustment was made to the airport type daily traffic estimates to account for the traffic occurring between the hours of 2100 and 0600 at lighted airports. The adjustments were expressed as percentages of the traffic estimated for the 0600-2100 interval. The adjustment factors used were 7% and 3% of estimated daily traffic for types 1 and 2 respectively. The resulting estimates are given in Table 16.

[1] Daily traffic is defined as the number of takeoffs plus the number of landings.

TABLE 21. SEASONALLY ADJUSTED WEEKDAY HOURLY GENERAL AVIATION TRAFFIC ESTIMATES

HOUR OF DAY	AIRPORT TYPE			
	TOWERED	NON-TOWERED		
		PAVED LIGHTED RUNWAYS	PAVED UNLIGHTED RUNWAYS	UNPAVED RUNWAYS
0600-0659	3.3	1.2	0.1	0.6
0700-0759	5.9	2.2	0.4	0.8
0800-0859	11.0	3.5	2.2	0.7
0900-0959	19.9	5.4	2.5	0.9
1000-1059	21.6	5.7	1.5	1.0
1100-1159	17.8	6.5	4.1	1.2
1200-1259	14.6	5.9	1.5	1.2
1300-1359	16.5	5.6	1.8	1.5
1400-1459	19.2	6.4	1.8	0.3
1500-1559	20.0	5.2	2.1	0.7
1600-1659	16.7	6.3	1.2	1.7
1700-1759	20.0	5.9	2.9	1.2
1800-1859	23.5	7.0	3.3	0.5
1900-1959	19.9	5.4	1.7	1.4
2000-2059	13.9	4.4	3.6	1.0
TOTAL	243.8	76.6	30.7	14.7

The adjustment to the total made for traffic occurring at airports which are not open to the public is discussed in Section II. Also mentioned there is the seasonality problem encountered in the survey. Because general aviation activity is affected by the weather, there is a seasonal influence on the level of activity occurring at different times of the year, particularly in regions with well-defined seasonal weather patterns. The survey data was collected only during summer months. Yet an annual estimate of total activity was to be made from it. Hence, it was necessary to remove the seasonal effect in the data prior to using it for estimation on an annual basis. Historical data collected at 339 FAA-towered airports was used to calculate quarterly seasonal factors for each FAA region via the Census X-11 Seasonal Adjustment Program. The factors yielded by X-11 are contained in Table 23. The factors for quarter three were applied to the individual airport traffic counts before the estimation was performed, yielding daily averages corrected for potential seasonal bias.

TABLE 22. SEASONALLY ADJUSTED WEEKEND HOURLY GENERAL AVIATION TRAFFIC ESTIMATES

HOUR OF DAY	AIRPORT TYPE			
	TOWERED	NON-TOWERED		
		PAVED LIGHTED RUNWAYS	PAVED UNLIGHTED RUNWAYS	UNPAVED RUNWAYS
0600-0659	6.6	0.8	0.0	0.2
0700-0759	8.3	1.5	2.0	0.4
0800-0859	12.2	4.7	2.2	0.9
0900-0959	25.3	7.1	1.1	1.2
1000-1059	26.8	9.0	1.7	1.7
1100-1159	28.8	10.8	1.8	2.5
1200-1259	23.5	8.7	1.7	2.7
1300-1359	25.8	6.7	2.4	2.3
1400-1459	26.8	7.9	1.5	1.5
1500-1559	24.4	8.0	1.9	1.8
1600-1659	21.7	7.0	2.0	2.4
1700-1759	18.8	6.7	3.9	1.3
1800-1859	15.7	5.1	2.5	1.5
1900-1959	11.3	4.9	2.0	0.8
2000-2059	8.2	3.7	0.8	0.5
TOTAL	284.2	92.6	27.5	21.7

TABLE 23. SEASONAL FACTORS OF GENERAL AVIATION ACTIVITY BY FAA REGION

FAA REGION	QUARTER OF YEAR			
	1	2	3	4
ALASKAN	67.78	132.31	131.67	68.24
CENTRAL	85.53	109.21	111.74	93.52
EASTERN	82.40	112.20	110.56	94.84
GREAT LAKES	78.27	113.13	119.60	89.00
NEW ENGLAND	78.82	109.68	117.21	94.29
NORTHWEST	81.57	117.22	120.19	81.02
PACIFIC	93.96	103.80	107.61	94.63
ROCKY MOUNTAIN	86.08	108.18	114.98	90.76
SOUTHERN	96.67	105.53	99.93	97.87
SOUTHWEST	91.97	105.68	106.65	95.70
WESTERN	92.35	106.83	106.76	94.06

The following list summarizes the steps in the estimation of the total number of general aviation operations in 1978:

1. Calculate regional seasonal factors.
2. Apply seasonal factors to individual airport counts.
3. Within each of the four airport categories, perform the following:
   a. Calculate an hourly average number of operations for each hour between 0600-2100. Do this separately for weekdays and weekends.
   b. Sum the hourly averages to obtain daily averages.
   c. Weight the weekday and weekend daily averages to obtain an overall daily average.
   d. Adjust the daily average to reflect nighttime activities.
   e. Multiply the adjusted daily estimate by 365 and then by the number of airports in each category, to obtain four annual estimates.
4. Sum the four annual estimates.
5. Add a correction for airports not open to the public.

D. RELIABILITY OF THE SURVEY DATA

An assessment of the reliability of survey data is difficult to make under any circumstances. The quality of the data is dependent upon many factors, some of which are within the control of the survey practitioner and others which at best can be guarded against in an effort to control their impact.

Errors in survey data are of two types, sampling error and non-sampling error. Sampling error results from the fact that only a portion of the population under study has been observed rather than the entire population. This type of error manifests itself by the fact that each different sample which could potentially result from a sample design would yield a different estimate of the quantity being estimated. The degree to which these estimates vary over the different samples is referred to as the sampling error. The magnitude of the sampling error is a function of the sample design and estimation techniques. A well-designed sample which incorporates prior knowledge about the underlying population can greatly reduce sampling error. In the case of the 1978 survey, there were three underlying "populations" of interest, the active pilot population, the "population" of general aviation flights occurring in 1978 and the "population" of general aviation operations occurring in 1978. The sample design had to allow for estimation involving all three populations. The discussion

concerning the sample design which was presented earlier describes how this goal was achieved. The final sample design was based upon extensive prior knowledge of the underlying populations.

Non-sampling errors arise from a variety of sources and impact the estimate via biases which cause the mathematical expected value of the estimator to differ from the true population value. One such source is non-response. Units in the sample which do not respond bias the estimates produced from the sample to the extent that they represent a homogeneity with respect to the characteristic under study which is different from that represented by the respondents. Non-response bias can be somewhat corrected for by various methods which involve adjusting for the non-respondents. In the survey, non-respondents were represented by those who refused to be interviewed. The extent of non-response differed from site to site, but an overall rate of approximately 15% was experienced. Because of the nature of the survey, there was no way to follow-up these cases and no way to adjust for them. Hence, their impact on the results is indeterminable. However, comparisons to other sources of data on the populations suggest that their impact was minimal.

Another type of "non-response" was experienced in the survey. That was non-response at the airport level. Although 300 airports were selected into the sample, survey operations were conducted at 220 of them. As a result, the geographical and airport type distribution of the airport sample was distorted. This distortion resulted in an over-representation of FAA-towered airports in the sample, as shown in Table 20. The effect that this had on the observed characteristics of pilots and flights can not be determined, but again, the alternate sources of data suggest that the impact was not serious.

Another type of non-sampling error is measurement error. This type of error results from respondents providing incorrect data. Careful editing of the survey documents is one means of protecting against this type of error. In addition to non-response error and measurement error, which occur during the data collection operation, other errors may be introduced during the data processing stage. These errors include coding, transcription and key-punching errors, as well as judgemental errors in the editing of the data. Because of the numerous sources of non-sampling errors and the inability to assess the magnitude of the resultant biases, it is generally believed that they are a more dangerous type of error than the sampling error, which in most cases, can be estimated by the data. The most effective manner of dealing with non-sampling errors therefore, is to anticipate them and thereby attempt to control them via quality control measures. In the data processing phase of the survey operations, many such quality control measures were applied to minimize the introduction of non-sampling errors into the survey data.

APPENDIX A.

TABLE A-1. PERCENTAGE DISTRIBUTION OF PILOT CERTIFICATE BY PILOT AGE

PILOT CERTIFICATE	PILOT AGE											
	Under 16	16-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60 and over	All Pilots
Student	66.6	63.1	24.6	17.8	10.8	10.8	9.5	6.5	3.7	4.1	4.5	13.1
Private	16.7	32.5	35.4	37.8	41.0	42.3	46.3	52.1	54.9	49.8	54.1	43.9
Commercial	16.7	4.4	35.2	34.5	37.8	34.9	35.4	32.9	32.5	35.4	36.9	34.1
Airline Transport	0.0	0.0	4.8	9.5	9.8	11.7	8.6	8.5	8.9	10.7	4.5	8.7
Helicopter (only)	0.0	0.0	0.0	0.3	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.2
Glider (only)	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	*
Balloon (only)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	*
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Represents less than 0.1%.

TABLE A-2. PERCENTAGE DISTRIBUTION OF SOURCE OF AIRCRAFT BY PILOT AGE

SOURCE OF AIRCRAFT	PILOT AGE											
	Under 16	16-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60 and over	All Pilots
Owner/partner	0.0	14.2	18.3	28.5	39.6	44.3	52.1	56.4	62.5	61.2	70.8	43.2
Rental, Flying Club, Leased	66.7	72.8	63.4	49.9	37.1	32.5	25.2	21.6	16.6	16.5	13.0	35.4
Corporate	0.0	5.6	9.4	13.6	15.2	15.4	17.9	16.7	15.0	18.4	9.8	14.5
Government	0.0	0.0	0.7	1.5	2.2	1.8	1.1	1.8	0.6	1.0	0.6	1.3
Other	33.3	7.4	8.2	6.5	5.9	6.0	3.7	3.5	5.3	2.9	5.8	5.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE A-3. PERCENTAGE DISTRIBUTION OF SOURCE OF AIRCRAFT BY PILOT CERTIFICATE

SOURCE OF AIRCRAFT	PILOT CERTIFICATE							
	Student	Private	Commercial	Airline Transport	Heli-copter (only)	Glider (only)	Balloon (only)	All Pilots
Owner/Partner	15.3	58.9	39.5	21.4	37.5	0.0	0.0	43.3
Rental, Flying Club, Leased	76.8	30.3	30.6	17.9	12.5	100.0	100.0	35.4
Corporate	2.0	7.9	20.2	43.9	37.5	0.0	0.0	14.5
Government	0.6	0.5	2.3	2.7	12.5	0.0	0.0	1.3
Other	5.3	2.4	7.4	14.1	0.0	0.0	0.0	5.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE A-4. PERCENTAGE UTILIZATION OF FLIGHT PLAN BY TYPE OF FLIGHT BY PURPOSE OF FLIGHT

LOCAL FLIGHT PLAN			FLIGHT PURPOSE	ITINERANT FLIGHT PLAN		
None[1]	IFR	VFR		None[1]	IFR	VFR
93.2	1.6	5.2	Personal	55.5	14.1	30.4
92.3	4.1	3.6	Business	51.6	29.7	18.7
66.7	33.3	0.0	Corporate/ Executive	22.2	66.7	11.1
50.0	5.6	44.4	Commuter Air Carrier	19.8	36.0	44.2
57.1	8.6	34.3	Air Taxi	24.6	29.6	45.8
89.2	2.9	7.9	Instructional	21.4	11.2	67.4
97.1	0.0	2.9	Aerial Application	81.8	0.0	18.2
94.2	2.9	2.9	Industrial	80.8	7.7	11.5
93.5	1.6	4.9	Other	56.8	13.6	29.6
91.1	2.6	6.3	All Flights	47.2	23.9	28.9

1. Assumes that non-respondents did not file a flight plan.

TABLE A-5. PERCENTAGE DISTRIBUTION OF FLIGHT PURPOSE BY SOURCE OF AIRCRAFT

PURPOSE OF FLIGHT	SOURCE OF AIRCRAFT					
	Owner/ Partner	Rental, Flying Club, Leased	Corporate	Government	Other	All Sources
Personal	59.2	35.2	11.3	8.5	17.9	40.4
Business	27.3	13.2	52.2	35.4	11.6	25.0
Executive/ Corporate	0.6	0.5	16.5	2.4	1.1	2.9
Commuter Air Carrier	0.1	1.2	2.4	0.0	13.5	1.6
Air Taxi	0.9	4.0	6.3	0.0	22.0	4.1
Instructional	6.5	41.0	4.0	11.0	15.7	19.2
Aerial Application	1.1	0.9	1.8	7.3	2.5	1.3
Industrial	0.6	0.8	1.3	12.2	1.4	1.0
Other	3.7	3.2	4.2	23.2	14.3	4.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

TABLE A-6. PERCENTAGE DISTRIBUTION OF SOURCE OF AIRCRAFT BY AIRCRAFT TYPE

SOURCE OF AIRCRAFT	AIRCRAFT TYPE								
	Single-engine Piston (1-3 place)	Single-engine Piston (4 place and over)	Multi-engine Piston	Rotor-craft Piston	Rotor-craft Turbine	Turbo-prop	Turbo-jet	Glider	All Aircraft Types
Owner/Partner	35.7	51.5	29.1	31.8	3.8	12.7	9.9	12.5	41.9
Rental, Flying Club, Leased	53.6	34.4	17.3	27.3	5.9	6.4	13.2	87.5	35.9
Corporate	4.3	9.3	37.2	27.3	44.2	68.2	68.1	0.0	14.7
Government	0.4	0.8	2.1	9.1	42.3	1.9	3.3	0.0	1.4
Other	6.0	4.0	14.3	4.5	3.8	10.8	5.5	0.0	6.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE A-7. PERCENTAGE DISTRIBUTION OF FLIGHT PURPOSE BY AIRCRAFT TYPE

PURPOSE OF FLIGHT	AIRCRAFT TYPE								
	Single-engine Piston (1-3 place)	Single-engine Piston (4 place and over)	Multi-engine Piston	Rotor-craft Piston	Rotor-craft Turbine	Turbo-prop	Turbo-jet	Glider	All Aircraft Types
Personal	43.8	48.8	15.6	9.1	2.0	3.2	2.2	52.9	40.3
Business	9.8	26.1	42.2	50.0	34.0	45.8	51.6	5.9	25.1
Executive/ Corporate	0.1	0.7	9.6	2.3	20.0	21.0	31.2	0.0	2.9
Commuter Air Carrier	0.1	0.4	6.8	0.0	0.0	20.4	0.0	0.0	1.7
Air Taxi	0.2	3.1	15.3	0.0	8.0	4.5	6.4	0.0	4.1
Instructional	37.8	15.1	4.6	11.4	2.0	1.9	6.4	35.3	19.1
Aerial Application	3.3	0.4	0.8	9.1	0.0	0.0	0.0	0.0	1.3
Industrial/ Special	0.6	0.9	0.8	13.6	10.0	0.0	1.1	0.0	1.0
Other	4.3	4.5	4.3	4.5	24.0	3.2	1.1	5.9	4.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE A-8. PERCENTAGE DISTRIBUTION OF SOURCE OF AIRCRAFT BY TYPE OF FLIGHT

SOURCE OF AIRCRAFT	TYPE OF FLIGHT	
	LOCAL	ITINERANT
Owner/Partner	40.6	43.2
Rental, Flying Club, Leased	45.5	26.7
Corporate	7.0	22.0
Government	1.5	1.3
Other	5.4	6.8
Total	100.0	100.0

TABLE A-9. LOCAL FLIGHT CHARACTERISTICS BY PILOT CERTIFICATE

PILOT CERTIFICATE[1]	AVERAGE CHARACTERISTIC		
	Landings Per Flight	Flight Time (Minutes)	Flight Speed (Nautical m.p.h.)
Student	4.29	67	94
Private	2.31	56	109
Commercial	3.00	64	110
ATR	3.02	64	126

1. Helicopter, glider and balloon certificates were omitted due to insufficient data.

TABLE A-10. ITINERANT FLIGHT CHARACTERISTICS BY PILOT CERTIFICATE

PILOT CERTIFICATE[1]	AVERAGE CHARACTERISTIC		
	Last Leg Distance (Nautical Miles)	Last Leg Time (Minutes)	Total Trip Distance (Nautical Miles)
Student	93	62	205
Private	197	95	403
Commercial	209	87	417
ATR	270	83	488

1. Helicopter, glider and balloon certificates were omitted due to insufficient data.

TABLE A-11. LOCAL FLIGHT CHARACTERISTICS BY PURPOSE OF FLIGHT

PURPOSE OF FLIGHT	AVERAGE CHARACTERISTIC		
	Landings Per Flight	Flight Time (Minutes)	Flight Speed (Nautical m.p.h.)
Personal	2.33	56	108
Business	2.07	54	121
Executive/Corporate	1.75	54	155
Commuter Air Carrier	1.50	34	150
Air Taxi	1.41	41	134
Instructional	4.08	69	99
Aerial Application	4.68	124	102
Industrial	2.50	108	99
Other	2.23	46	118

TABLE A-12. ITINERANT FLIGHT CHARACTERISTICS BY PURPOSE OF FLIGHT

PURPOSE OF FLIGHT	AVERAGE CHARACTERISTIC		
	Last Leg Distance (Nautical Miles)	Last Leg Time (Minutes)	Total Trip Distance (Nautical Miles)
Personal	197	98	405
Business	229	88	424
Executive/ Corporate	301	101	506
Commuter Air Carrier	111	43	478
Air Taxi	176	67	410
Instructional	101	65	214
Aerial Application	132	81	268
Industrial	167	84	540
Other	194	91	349

TABLE A-13. PERCENTAGE UTILIZATION OF PREFLIGHT WEATHER INFORMATION SERVICES BY TYPE OF FLIGHT BY TYPE OF AIRCRAFT

LOCAL: PREFLIGHT WEATHER INFORMATION			TYPE OF AIRCRAFT	ITINERANT: PREFLIGHT WEATHER INFORMATION		
FAA	Other	None		FAA	Other	None
41.0	56.0	7.6	Single-engine Piston (1-3 place)	79.3	23.7	1.8
50.8	46.6	6.8	Single-engine Piston (4 place and over)	85.3	21.3	1.7
60.2	40.3	3.4	Multi-engine Piston	89.3	15.7	1.2
34.5	44.8	20.7	Rotorcraft Piston	66.7	40.0	0.0
50.0	50.0	3.8	Rotorcraft Turbine	61.5	34.6	3.8
62.5	37.5	6.3	Turboprop	90.8	20.6	1.4
66.7	66.7	0.0	Turbojet	84.1	23.9	0.0
11.8	82.4	5.9	Glider[1]	N/A	N/A	N/A
47.3	49.9	7.1	All Aircraft	85.0	20.9	1.6

1. No gliders were observed in itinerant operations.

TABLE A-14. PERCENTAGE UTILIZATION OF INFLIGHT WEATHER INFORMATION SERVICES BY TYPE OF FLIGHT BY TYPE OF AIRCRAFT

LOCAL: INFLIGHT WEATHER INFORMATION			TYPE OF AIRCRAFT	ITINERANT: INFLIGHT WEATHER INFORMATION		
FAA	Other	None		FAA	Other	None
37.6	40.6	22.6	Single-engine Piston (1-3 place)	64.7	22.1	14.1
45.8	32.9	22.8	Single-engine Piston (4 place and over)	74.8	13.3	13.1
56.3	27.3	17.6	Multi-engine Piston	82.8	7.8	10.6
34.5	37.9	27.6	Rotorcraft Piston	33.3	46.7	20.0
61.5	15.4	23.1	Rotorcraft Turbine	53.9	19.2	26.9
50.0	18.8	31.2	Turboprop	86.5	11.3	6.4
66.6	16.7	16.7	Turbojet	78.4	9.1	14.7
5.9	64.7	29.4	Glider[1]	N/A	N/A	N/A
43.0	35.6	22.6	All Aircraft	75.2	13.4	12.7

1. No gliders were observed in itinerant operations.

TABLE A-15. PERCENTAGE UTILIZATION OF PREFLIGHT WEATHER INFORMATION SERVICES BY TYPE OF FLIGHT BY PILOT CERTIFICATE

LOCAL: PREFLIGHT WEATHER INFORMATION			PILOT CERTIFICATE[1]	ITINERANT: PREFLIGHT WEATHER INFORMATION		
FAA	Other	None		FAA	Other	None
39.6	56.2	8.1	Student	88.0	16.8	1.0
48.9	48.6	7.0	Private	83.2	23.1	1.4
49.6	48.7	6.1	Commercial	85.8	19.9	1.9
56.8	41.7	6.1	ATR	88.2	18.8	1.0
47.8	49.7	6.9	All Certificates	85.2	20.8	1.5

1. Helicopter, glider and balloon certificates were omitted due to insufficient data.

TABLE A-16. PERCENTAGE UTILIZATION OF INFLIGHT WEATHER INFORMATION SERVICES BY TYPE OF FLIGHT BY PILOT CERTIFICATE

LOCAL: INFLIGHT WEATHER INFORMATION			PILOT CERTIFICATE[1]	ITINERANT: INFLIGHT WEATHER INFORMATION		
FAA	Other	None		FAA	Other	None
42.4	36.3	22.3	Student	72.6	13.9	13.9
44.0	33.7	23.4	Private	74.8	14.6	11.8
43.3	37.2	21.2	Commercial	74.6	13.1	13.6
40.2	37.1	23.5	ATR	80.7	10.4	10.9
43.3	35.5	22.5	All Certificates	75.4	13.4	12.6

1. Helicopter, glider and balloon certificates were omitted due to insufficient data.

APPENDIX B

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Form Approved.
OMB No. 04-S78001

GENERAL AVIATION PILOT AND AIRCRAFT ACTIVITY
SURVEY INSTRUCTIONS
(How to Conduct Pilot Interview and Traffic Count)

I. INTRODUCTION.

The purpose of the general aviation activity survey is to broaden the base of knowledge concerning the impact of general aviation on the national aviation system. This will be accomplished by interviewing pilots and counting aircraft traffic at airports. As a by-product, the aircraft and pilot data compiled in previous FAA/CAP general aviation surveys can be updated. General aviation includes all operations that are not performed by a certificated air carrier (all the airlines - FAR Part 121 and Part 127 operators) or military aircraft. Therefore, air carrier and military aircraft and pilots are excluded from the survey.

II. SURVEY PLAN.

Both pilot interview and traffic count are to be conducted simultaneously at selected airports for two days, one on the weekday and one on the weekend. In each day, the survey is to start at six o'clock in the morning and to end at nine o'clock in the evening. Keep a record of the survey starting and ending time as well as any interruption during the two-day survey. Report it to the survey team leader.

This is a nationwide survey. Every category of airport, both large and small, is included. The information obtained from every airport is equally valuable and important to the overall result even though in some airports, the average daily operations may be very small. The survey must be performed in accordance with schedules even if the weather conditions on these days may not be typically good for flying.

III. INTERVIEW PROCEDURES (FAA Form 1800-56 OT-Questionnaire).

A. Interview every general aviation pilot on arrival even though he may have been interviewed at other airports. The questionnaire for interviewing pilots is designed to be answered completely in less than four minutes. Prior to interview, fill in the airport name, name of the state, airport tower, and survey date in the questionnaire. Upon their arrival, ask them the questions or let them fill in the questionnaire and return it to you before they leave the airport. Check to be sure every question is answered properly. Do not detain pilots for too long in answering the questions or create any inconvenience to their activities. If a pilot expresses that he does not have time to fill out the questionnaire,

ask him the questions in the questionnaire; if a pilot refuses to cooperate, politely try to persuade him to change his mind. However, keep a daily head count of those who refuse to cooperate, and report it to your team leader at the end of the day. This information is crucial to the evaluation of the validity of the survey data. To conserve paper, the questionnaire has been printed on both sides; each side can be used for interviewing one pilot. Don't interview pilots who operate air carrier or military aircraft at the survey time. An official listing of U.S. air carriers is enclosed as appendix 1.

B. While all questions are self-explanatory, the following terms are defined:

a. Purpose of Flight (Question No. 5)

1. Personal--Any use of an aircraft for personal purposes not associated with business or profession, and not for hire. This includes maintenance of pilot proficiency.

2. Business--Any use of an aircraft not for compensation or hire by an individual for the purposes of transportation required by a business in which he is engaged.

3. Executive--Any use of an aircraft by a corporation, company or other organization, including government, for the purposes of transporting its employees and/or property not for compensation or hire and employing professional pilots for the operation of the aircraft. This includes maintenance of proficiency of the pilots employed by the company.

4. Commuter Air Carrier--Any aircraft operator which performs, pursuant to published schedules, at least five round trips per week between two or more points, or carries mail. This includes maintenance of pilot proficiency.

5. Air Taxi--Any use of an aircraft by the holder of an air taxi operating certificate which is authorized by that certificate except commuter air carrier. This includes maintenance of pilot proficiency.

6. Instructional--Any use of an aircraft for the purposes of formal flight instruction with or without the flight instructor aboard.

7. Aerial Application--Any use of an aircraft in agriculture to discharge material in flight and to perform activities such as antifrost agitation, agitating fruit trees, chasing birds from crops, checking crops, restocking of fish and animal and other wildlife, etc.

8. Industrial/Special--Any use of an aircraft for specialized work allied with industrial activities; excluding transportation and aerial application. (Example: pipe line patrol; survey; advertising, photograph; hoist, etc.)

9. Other--Such as Research and Development, demonstration, parachuting, sport, etc.

b. Type of Operation (Question No. 9)

1. Local Operations--local operations are those performed by aircraft which:

(a) Operate in the local traffic pattern or within sight of the airport.

(b) Are known to be departing for, or arriving from flight in local practice areas located within a 20-mile radius of the airport.

(c) Execute simulated instrument approaches or low passes at the airport.

2. Itinerant (cross-country) Operations--Any operation which is not local.

Note: There exists some relationship between the purpose of flying and the type of operation. If the purpose of flying is either business, executive, commuter air carrier, air taxi, aerial application or industrial/special, generally speaking, the flight should be an itinerant (cross-country) even though the aircraft take off and land at the same airport. However, there is an exception that an executive, a commuter air carrier or an air taxi flight could be "local" if it is for the maintenance of pilot proficiency and meets the requirements of either 1(a), 1(b), or 1(c) of a local operation.

IV. OBSERVATION PROCEDURES (FAA Form 1800-57 OT Airport Traffic Count)

Record the aircraft taking off from or landing at the airports. To observe such activities,the survey team should be stationed at a safe area close to the runway(s) where every aircraft operation can be observed and recorded.

Complete the survey form as follows:

Items 1, 3, 4 and 5 are self-explanatory.

Item 2 "Airport code" is reserved for the FAA only.

Item 6 "Weather" - enter the weather condition at airport twice a day, one in the morning and one in the afternoon.

Item 7 "Time" - write the local time of the day that the takeoff or landing took place, use the 24-hour clock in this column.

Item 8 "Aircraft type" - enter

"1" for single-engine piston 1-3 places.	"5" for turbojet.
"2" for single-engine piston 4 places and over.	"6" for rotorcraft.
"3" for multi-engine piston.	"7" for glider.
"4" for turboprop.	"8" for balloon.

Items 9-11, Check appropriate column for aircraft operations: "takeoff," "landing," or "touch/go."

Start with a new form for each day. Number each form serially in sequence as used.

V. LEADERS OF SURVEY TEAMS AND DAILY SUMMARIES (FAA FORM 1800-58 OT)

At the end of each day, collect from the team members the following information and prepare the survey daily summaries:

(1) all completed questionnaires,
(2) the head count for those pilots who refused to cooperate,
(3) all completed traffic count forms
(4) the survey starting and ending time and any interruption during the survey.

Within seven(7) days after the suvey has ended, forward the survey summaries together with the completed questionnaires and traffic count forms in the envelopes provided to:

Information & Statistics Division, AMS-200
Federal Aviation Administration
800 Independence Avenue, SW
Washington, D. C. 20591

SURVEY INSTRUCTIONS
Appendix 1 LIST OF U.S. AIR CARRIERS

I. Certificated Air Carriers and Official Abbreviation.

Airlift International, Inc. (RD)

Air Midwest (ZV)

Air New England, Inc. (NE)

Alaska Airlines, Inc. (AS)

Allegheny Airlines, Inc. (AL)

Aloha Airlines, Inc. (TS)

American Airlines, Inc. (AA)

Aspen Airways, Inc. (AP)

Braniff Airways, Inc. (BN)

Chicago Helicopter Airways, Inc. (CH)

Continental Air Lines, Inc. (CO)

Delta Air Lines, Inc. (DL)

Eastern Air Lines, Inc. (EA)

The Flying Tiger Line Inc. (FT)

Frontier Airlines, Inc. (FL)

Hawaiian Airlines, Inc. (HA)

Hughes Air Corp., d/b/a Hughes Airwest (RW)

Kodiak-Western Alaska Airlines, Inc. (KO)

Munz Northern Airlines, Inc. (XY)

National Airlines, Inc. (NA)

New York Airways, Inc. (NY)

North Central Airlines, Inc. (NC)

Northwest Airlines, Inc. (NW)

Ozark Air Lines, Inc. (OZ)

Pan American World Airways, Inc. (PA)

Piedmont Aviation, Inc. (PI)

Reeve Aleutian Airways, Inc. (RV)

Seaboard World Airlines, Inc. (SB)

Southern Airways, Inc. (SO)

Texas International Airlines, Inc. (TI)

Trans World Airlines, Inc. (TW)

United Airlines, Inc. (UA)

Western Air Lines, Inc. (WA)

Wien Air Alaska, Inc. (WC)

Wright Air Lines, Inc. (FW)

II. Supplemental Air Carriers.

Capitol International Airways, Inc.

Evergreen International Airlines, Inc.

McCulloch International Airlines, Inc.

Modern Airways, Inc.

Overseas National Airways, Inc.

Trans International Airlines, Inc.

World Airways, Inc.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

GENERAL AVIATION PILOT AND AIRCRAFT ACTIVITY SURVEY
Questionnaire

OMB No. 04S78001
Approval Expires
12/31/1978

(This survey is authorized by sections 311 and 312 of the Federal Avaition Act of 1958, as amended. You need not give your name or aircraft N-number. Information collected is used for statistical purposes only. While you are not required to respond, your cooperation is essential to the accuracy of the survey results.)

INSTRUCTIONS FOR ANSWERING THE QUESTIONS: A. " X " ☒ to indicate the answer or fill in as indicated.
B. Best estimate is acceptable if there is no EXACT answer.

Airport Name: _____ /Site No. / / / / / / / / / / / / / /State: _____ / /

Airport Tower: cc-14
1. ☐ FAA tower
2. ☐ Non-FAA tower
3. ☐ No tower with paved runway(s)
4. ☐ No tower no paved runway

cc 1-11 (for FAA use only)

cc-12-13

Survey date: _____ / _____ / _____ / _____
cc 15-19 (day of the week) month day year

(1) What aircraft did you use in this flight?
cc-20
1. ☐ Single-engine piston
2. ☐ Multi-engine piston
3. ☐ Rotorcraft piston
4. ☐ Rotorcraft turbine
5. ☐ Turboprop
6. ☐ Turbojet
7. ☐ Glider
8. ☐ Balloon

(2) How did you obtain the aircraft for this flight?
cc-21
1. ☐ Individual owner/partnership
2. ☐ Commercial rental, flying club, leased
3. ☐ Corporate owner other than commercial
4 ☐ Government
5. ☐ Other

(3) How many seats are available in this aircraft?
cc 22-24 No. _____ seat(s)

(4) How many seats were occupied during this flight?
cc 25-27 No. _____ seat(s)

(5) What was the main purpose of this flight?
cc-28
1. ☐ Personal (flying for non-business reasons)
2. ☐ Business (flying for business reasons)
3. ☐ Executive/corporate flying
4. ☐ Commuter air carrier
5. ☐ Air Taxi (excluding commuter air carrier)
6. ☐ Instructional (excluding proficiency)
7. ☐ Aerial application
8. ☐ Industrial/special, patrol, survey, etc.
9. ☐ Other (demonstration, R & D, parachuting, etc)

(6) How did you obtain weather information PRIOR to this flight? (more than one answer is permitted)
cc-29
1. ☐ FSS briefing
2. ☐ NWS briefing
3. ☐ Other briefing
4. ☐ TV/radio/paper news
5. ☐ PATWAS/Tele TWEB
6. ☐ TWEB broadcast
7. ☐ NOAA broadcast
8. ☐ Other sources

(7) How did you obtain weather information DURING this flight? (more than one answer is permitted)
cc-30
1. ☐ Contacted EFAS (FLIGHT WATCH)
2. ☐ Monitored FLIGHT WATCH
3. ☐ Contacted FSS other than FLIGHT WATCH
4. ☐ Contacted center/tower
5. ☐ ATIS broadcast
6. ☐ FSS hourly bdct
7. ☐ TWEB-NDB bdct
8. ☐ TWEB-VOR bdct
9. ☐ Other sources

(8) Did you file a flight plan before/during this flight?
cc-31
1. ☐ NO flight plan (go to question 9)
2. ☐ Preflight IFR
3. ☐ Preflight VFR
4. ☐ Inflight IFR
5. ☐ Inflight VFR

If you filed a flight plan, tell how you filed it
cc-32
1. ☐ Filed by FSS tape-recorder (Fast File)
2. ☐ filed with FSS specialist
3. ☐ filed with center/tower controller

(9) Was this flight a local or itinerant (cross-country)?
cc-33 1. ☐ Local 2. ☐ Itinerant (cross-country)

(If the answer is local, skip question 11; if the answer is itinerant, skip question 10)

(10) If this was a local flight,
(a) How many landings were performed?
cc 34-35 No. _____ landings

(b) What was the total flight time?
cc 36-39 No. _____ hour(s) and _____ minutes

(c) What was the average flying speed (knots)?
cc 40-42 No. _____ nautical miles per hour

(11) If this was an itinerant (cross-country) flight,
(a) What is the air distance between the departure and arrival airports for this last leg?
cc 43-46 No. _____ nautical miles

(b) What was the flight time of this last leg?
cc 47-50 No. _____ hours(s) and _____ minutes

(c) What kind of airport did you come from?
cc-51
1. ☐ FAA towered airport
2. ☐ Non-FAA towered airport
3. ☐ No tower with paved runways
4. ☐ No tower, no paved runway

(d) Counting all intermediate stops, what is the total trip air distance between the origin and destination airports?
cc 52-55 No. _____ nautical miles

(12) What is the average fuel consumption (gallons per hour) for this aircraft?
cc 56-59 No. _____ gallons per hour

(13) Do You hold a current instrument rating?
cc-60 1. ☐ Yes 2. ☐ No

(14) What pilot certificate do you hold
cc-61
1. ☐ Student
2. ☐ Private
3. ☐ Commercial
4. ☐ Airline Transport
5. ☐ [illegible]
6. ☐ [illegible]
7. ☐ [illegible]
8. ☐ Foreign country

(15) What is your age group?
c-62 63
1. ☐ Less than 16
2. ☐ 16-19
3. ☐ 20-24
4. ☐ 25-29
5. ☐ 30-34
6. ☐ 35-39
7. ☐ [illegible]
8. ☐ [illegible]
9. ☐ [illegible]
10. ☐ [illegible]
11. ☐ 60 or over

(16) How many hours did you fly in calendar year 19[illegible]?
67 No. _____ hours

(17) Of these total flying hours in 19[illegible], how many hours were used in local flying? and how many hours in cross-country flying?
cc 68-71 No. _____ hours in local flying

cc 72-75 No. _____ hours in itinerant flying

(18) What is the road distance between your home and the airport where you usually boarded the aircraft?
cc 76-78 No. _____ Miles. Was this the nearest to your home
cc-79 1. ☐ Yes 2. ☐ No

(19) Were you interviewed before at this or another airport?
cc-80 1. ☐ Yes 2. ☐ No

FAA Form 1800-56 OT (4-78)

Use Expires 12/31 19[illegible]

cc-4 Day of the week

Date: / / 78
5,6 7,8 9,10

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Form Approved.
OMB No. 04-S78001

GENERAL AVIATION AIRCRAFT ACTIVITY SURVEY
Airport Traffic Count

1. Airport Name:_____ 2. Airport Code:_____
cc 12-22 (FAA USE ONLY)

3. Location--Nearest City:_____ County:_____ State:__ __
cc 23,24

4. Airport Tower: (1) ☐ FAA Tower (2) ☐ Non-FAA Tower (3) ☐ No Tower
cc 25

5. Runway(s): (1) ☐ Paved (2) ☐ Unpaved (3) ☐ Lighted (4) ☐ Not Lighted
cc 26 cc 26 cc 27 cc 27

6. Weather:
(a) 0900--(1) ☐ VFR (2) ☐ IFR (b) 1500 --(1) ☐ VFR (2) ☐ IFR
cc 28 cc 28 cc 29 cc 29

	7				8	9	10	11	7				8	9	10	11
	Time(local)a/				Aircraft Type b/	Take off	Land-ing	Touch /Go	Time(local)a/				Aircraft Type	Take off	Land-ing	Touch /GO
cc	30	31	32	33	34	35	36	37	30	31	32	33	34	35	36	37

a/ Use 24 hour clock to the nearest minutes: 2:30pm = 14:30

b/ 1 = Single-engine piston 1-3 places
2 = Single-engine piston 4 places/over
3 = Multi-engine piston
4.= Turboprop
5 = Turbojet
6 = Rotorcraft
7 = Glider
8 = Balloon

FAA Form 1800-57 OT (4-78) Use expires 12/31/78

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Form Approved.
OMB No. 04-S78001

GENERAL AVIATION PILOT AND AIRCRAFT ACTIVITY SURVEY
Daily Summaries

1. Airport Name:_____ State:_____

2. Survey Date: _____/_____ _____/_____
(day of the week) (day of the month) (day of the week) (day of the month)

3. Time survey started: _____ _____

4. Time survey ended: _____ _____

5. Survey Interruption(Time Period): _____ _____

6. Number of completed questionnaires: _____ _____

7. Number of completed traffic count forms: _____ _____

8. Number of pilots who refused to cooperate: _____ _____

9 Survey Comments, if any: _____

_____

_____

_____

_____

10. Rank, Name, CAP Commander, _____

Telephone Numbers:
(include Area Code)

Home: _____

Office: _____

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